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Abstract

This paper reports on discussions that took place at a series of specialist seminars and workshops on research degree examining organised by the UK Council for Graduate Education during 2000/2001 at various venue in the UK. The processes and procedures of research degree examination in the UK are debated in terms of variations in practice that exist along with principles that signal a common identity. The discussion takes account of the effects of developments in, for example, professional doctorates and the PhD by published work and on perceptions of the 'traditional' examination. Issues addressed include: the composition of PhD examining panels and the roles of individual examiners within those panels; the training and qualification of examiners; the purpose and nature of the oral examination; the tension between examination of the process of training and that of the 'finished product' (which the thesis may be seen to represent). The paper argues for the need for more transparency about examination processes, for challenge to common assumptions and for a refocusing on research degree examination as a process of assessment.

Key Words:

Research degrees, examination processes, examination principles, assessment

Research Degree Examining - Common Principles and Divergent Practices

Overview

Over the past 18 months the authors have coordinated a number of national seminars and workshops on research degree examining involving active researchers and research supervisors/examiners from across the UK and from a range of institutions and academic disciplines. Focussed discussions at these national seminars have indicated that institutional practices concerning research degree examination vary significantly across the sector. It was also noted that some issues relating to this variation may be largely outside the remit of the current QAA (1999) *Code of Practice for the Assurance of Academic Quality and Standards in Higher Education: Postgraduate Research Programme*s. It also became clear that the issue of thresholds may be contentious when applied to research degree examining and indeed that current notions of assessment may be inadequate when applied to practice with regard to the examination of theses. The notion of the viva was particularly problematic in discussions. It was noted that in many European countries the viva was a matter of public defence and part of a ritual 'welcoming into the Guild' - in the UK it tended to have a range of functions, some overt but others remaining hidden. One area of consensus was that there is a need to focus on the function of research degree examination as a form of assessment; for example, it was suggested that other aspects of the process such as ‘rite of passage’ sometimes obscure this function.

For the purposes of this paper issues discussed are grouped under two headings: Research Degree Examination as Assessment; Examiners and Examining Panels. In each case the original issues as set out in the briefing paper that preceded the seminars

and workshops are noted – these issues are followed by the key questions that were presented to participants and finally the main points of the subsequent discussion are summarised.

Research Degree Examination as Assessment

Setting out the issues

There are many commonly expressed notions about research degree examination and it is frequently seen in a different light to other aspects of examining in higher education. It has developed its own custom and practice and mystique with the viva or oral examination taking on a significance, particularly for the candidate, which has moved it some way from being merely an assessment of the achievement of research outcomes, if it ever was!

We might usefully reflect on what we mean by assessment and ask whether the PhD examination stands scrutiny as a form of assessment. The QAA's (2000a) definition of assessment will suffice to challenge us in our approach to PhD examination.

"Assessment is a generic term for a set of processes that measure the outcomes of students' learning, in terms of knowledge acquired, understanding developed, and skills gained. It serves many purposes. Assessment provides the means by which students are graded, passed or fail. It provides the basis for decisions on whether a student is ready to proceed, to qualify for an award or to demonstrate competence to practise. It enables students to obtain feedback on their learning and helps them

improve their performance. It enables staff to evaluate the effectiveness of their teaching." (page 3)

Additionally, we may wish to question the elements of the assessment as most, if not all, documents and artefacts submitted for assessment will contain the words 'submitted in partial fulfilment of the requirements…..' If the document or artefact is part of the submission for examination, what is the other part? What is the relationship between the two or possibly more parts, in terms of weighting? Does the candidate have to pass both parts in order to be awarded the degree? And, most importantly, where are any of these questions answered in institutional regulations?

The role of oral examination/viva

An inspection of their regulations shows that institutions vary in their stance with regard to the obligatory nature of the viva, with some insisting on it being held regardless of perceived qualities in the thesis and others offering various kinds of dispensation eg. 'where no useful purpose would be served'. In one sense at least, attitude to the necessity for an oral defence relates to the underlying perception of whether the examination is of the thesis or the process of research training. A product might be examined in the absence of its author whereas to judge the outcomes of a process of training requires some questioning of the individual who has been trained.

There is wide variation in practice over whether or not a supervisor should be present at the oral examination and their role if they are allowed/encouraged to be present. In some institutions where supervisors may be present, they are only invited at the

discretion of the examiners, in others only at the discretion of the candidate and yet in others they may be required to be available on request but normally not be expected to attend. In some institutions attendance requirements or restrictions relate only to the principal, or first, supervisor. Contribution of supervisors during the examination varies between being expected to speak and being allowed to speak, but only at the request/discretion of the examiners. Commonly the supervisor's unspoken role is that of acting as 'candidate's friend'.

Few institutions make the viva a public event, though some departments claim openness within certain categories of staff. The merits and demerits of public defence are rarely discussed within institutions. Practice in other countries differs greatly from that in the UK. It may be argued that practice in the UK needs to be debated in the context of potentially increasing European convergence. Clearly, differences in current UK practice relate largely to differences in the kind and quantity of research training and research activity seen as necessary for the award of PhD and subsequently to differences in the bases for assessment. This area is explored in more detail in Powell (1999).

There are now possibilities for making the viva a more flexible event by means of video conferencing. There may however be issues arising from the use of technology in this way within the process of assessment, for example where confidentiality may be threatened.

Generally there is lack of clarity about the purpose of the viva. For example, whether the viva is intended to be an examination in the broadest sense of the term or merely a verification of authenticity. Indeed, in reality, many vivas seem to become effectively

opportunities to fine-tune the written work of the candidate in order that it reaches a notional standard acceptable for scrutiny by the wider intellectual community.

Assessment criteria

There appears to be little consistency also in terms of the level or kind of guidance that is given to examiners on criteria for assessing submissions. Many institutions cite the need for criteria such as originality and publishability, but detailed checklists of criteria for assessing theses are not in evidence. This area is explored in some detail in Shaw and Green (1996). This kind of variation reflects the underlying lack of clarity about threshold performances that might define differences between degrees at Masters (e.g. MRes), MPhil and PhD levels. Also, there is lack of clarity concerning any weighting that might be given to different components within a thesis and to different aspects of the examination. For example, should critical self-appraisal be allowed to compensate for poor research design?

Assessment of process or product?

Differing examiners' views indicate a tension in the PhD examination over the extent to which it is the process of research training or the finished product that should be examined. Different views in this respect will lead to differences in notions of the way in which the viva ought to proceed and indeed the breadth of the remit given to examiners. For example, should examiners be:

- able to 'explore records of research supervision' (CVCP, 1993) or other documents such as progression or transfer reports

- asked to comment on quality of supervision, training opportunities and facilities provided by departments - seen in the BPS document, UCoSDA/BPS (1995), as *'an important subsidiary role of the examination board'*
- given access to a candidate's critical self-appraisal of their own learning as well of the research findings and interpretations?

In order to explore these sorts of issues more carefully with practitioners, the key questions indicated in TABLE I were compiled and used to focus discussion and group activity during seminars/workshops.

Summary of Discussion on Research Degree Examination as Assessment

The discussions were allowed to be free-ranging and the foci and responses were not always neatly confined to the key questions posed. The summary is presented here under theme headings that include the key questions, but that range beyond them.

What is Being Assessed?

When assessing at research degree level – is it the candidate (i.e. the sum total of the learning outcomes for the individual (including perhaps any such outcomes from generic training) or the substantive nature of any contribution to knowledge (i.e. as expressed in the thesis) that is being assessed?

Who is Being Assessed?

Should a judgement be made as to the quality of supervision that has led to the submission and if so could 'negligent supervision' (CVCP, 1993) influence decisions

when awarding the degree? Should judgements be made by the examiners about overall provision within the institution (e.g. of resources and training opportunities for students)? **Are there Identifiable (and Usable) Assessment Criteria for PhD?** What might such criteria be? Should criteria for the award of PhD be made explicit? Should different criteria for different parts of the thesis and/or the examination be weighted? Should such criteria be made available to all students? What might count as 'publishability' (but see below)? How Should the Assessment be Conducted? Is a viva necessary for effective assessment of a PhD? Is more than one examiner necessary? What is the role of supervisors in the examination process?

TABLE 1: Key questions – research degree examination as assessment

What or who is being assessed?

It was generally agreed that it is more than the written word that it being examined. It should be the case that the key skills, reflected by the work, are being judged and therefore the student him/herself is the real point of scrutiny. Examiners should be asking themselves - has this student integrated key skills and understanding? The viva is supposed to be the most satisfactory place to investigate this, yet this point of focus is often lost as the marking of the thesis and the viva, as already noted, become contexts for checking text and improving literary qualities.

Special mention was made that theses should in one sense be valued 'in their own part of the academy' but this is problematic where the work is genuinely interdisciplinary

- an area which is growing. Indeed, one key area of potential difficulty was identified as the nomination of an examination team that could properly and fairly examine a thesis that crosses disciplinary boundaries and that thus employs constructs and methodologies that may not be universally recognised.

Assessment criteria

It was generally agreed that criteria might be difficult to standardise across HEIs and that in any case such standardisation would not necessarily be desirable. But it was also argued strongly that there was a need for more transparency. At present the situation across the sector is not only varied but it is also opaque. This makes quality and standards auditing a difficult exercise and disadvantages the student who may enter an assessment scenario unaware of the hidden agenda in operation.

The notions of 'publishability', 'original and significant contribution to knowledge', that are commonplace criteria used by institutions, often depend on a number of factors and are linked to discipline. It is quite common for there to be no agreement made between examiners with regard to criteria – by default decisions are therefore based on implicit criteria, which may remain idiosyncratic to individual examiners.

Some seminar attendees made the argument for 'threshold' levels for criteria rather than standardisation and it was generally agreed that there should not be subclasses for PhDs. It was generally agreed that the PhD is a 'threshold' qualification.

Status and nature of the viva and the thesis

The thesis was seen to be prioritised as the medium for assessment. It was felt that the viva, as currently operated in the UK, could not function adequately as a means of reflecting the student's expertise accurately enough for judgement to be made and therefore the student's individual learning was seen to be secondary. It is then the thesis that is assessed, though discussants did claim that examiners were making judgements about the candidate on the basis of what was presented in the thesis. There was general agreement that the viva should be an area for learning for all concerned. But there was recognition that it generally functioned as a means of 'polishing' the thesis and tuning the clarity of the contribution to knowledge and overall literary quality of the written work. Throughout the various discussion groups there was an emerging consensus that the learning opportunities offered for all participants by research degree examination were not regularly pursued to full advantage. Certainly there was little evidence of the process of examination being reflected upon in any formal sense nor was evaluative feedback on the process regularly obtained.

It was felt by many that the nature of the viva depends on the nature of the thesis. Some colleagues felt that if the document was strong then the viva functioned as a summative process whereby the examiner would sum up the strengths of the thesis and discuss post-doctoral progression. If on the other hand, the document was felt to be failing then the viva functioned as a formative process whereby the examiner would inform the students of the weaknesses that would lead to resubmission and possible re-examination. Time would then be spent on giving formative guidance on

what is required to amend current failings. We should note here that the converse view was also expressed, namely that the function is summative when the thesis fails (the examiner is making a judgement) and formative when it is successful - the examiner is considering progression beyond the PhD and into the academic community.

The view was expressed that the viva should function also as a way of assessing whether students have integrated key research skills and understanding of methodology as a result of research training. This was seen as a new aspect of the modern PhD along with other value-added aspects such as the importance of a PhD resulting in a new artefact, product or innovation.

Monitoring and evaluation of process

There was a suggestion from some discussion groups that the final examination of a PhD could be informed by various earlier stages in the process, such as a first year or transfer/upgrading report. Some colleagues felt that examiners should have access to these earlier reports. Again, opinions were divided along similar fault lines to those that existed in the 'teacherly – confrontational' debate (see 'Role of the Examiner' section later in this paper). There was general agreement that a satisfactory assessment process was likely when each assessment point during a student's progress acted clearly as a device to keep the student on track. In particular, the upgrading process should not been seen as an automatic progression to PhD status. In short, it was generally agreed that there should be delineated points in the process of a research degree programme which indicate if the student is likely to complete or fail

and that a more rigorous evaluation of the process would affect the type of viva and ratio of pass/fails

As already noted there was some strong support for the notion that the same examining panel should examine throughout the process of a programme of study and at the final thesis stage. In this sense the examination of the final thesis was seen as a synoptic assessment of a complete process. This was seen as analogous with assessments of taught postgraduate courses where examiners might have access to records indicating the whole of the progress of an individual student through a programme of study.

There was some agreement, though not unanimous, for the notion that a report should be included at the end of the process (i.e. at the final examination stage) which describes 'special measures' encountered and perhaps overcome successfully during the research process.

The main conclusions and areas of consensus emerging from the discussion groups are presented concisely in TABLE 2. The rows indicate function and role while the columns show aspects of the process. What is clear from this table is that function and role shift as one considers the different aspects of the whole process. In particular there are tensions between what is valued within the written (or alternatively presented) ‘product’ itself and the process of the student’s learning.

	The Finished Product	**The Research Process**	**The Viva**
Function	• verification of learnt research skills • indicate contribution to research community • indicate contribution to knowledge	• facilitate research apprenticeship	• polishing / fine tuning the literary work • examination of the candidate’s knowledge and skills • verification of authenticity

			• rite of passage
Status	Prioritised as medium for assessment	rarely prioritised during assessment	varies from absolute to probable to possible
Mode	• written thesis • alternative forms of doctoral submission • culmination of discrete parts of a professional doctoral programme • collection of published work with exegisis	• supervision • taught elements (including training in methodology and in generic skills) • retrospectively acknowledged (PhD by published work)	• real time • video conferencing • appraisal of work in situ (e.g. art submission)
Assessment Criteria	• publishability (does not always apply, e.g. in practice based doctorates) • originality • innovation • significance of contribution to knowledge • level of scholarship	• may form part of assessment in professional and practice based doctorates • records of progress may be referred to	• determined by evaluation of finished product • ability to communicate ideas and defend positions • evidence of authorship
Progression & Improvement	• increased transparency/ clarity (from earlier submissions where made) • threshold markers for different awards • weighting for different components	• evaluation of final thesis may be interpreted as a synoptic assessment of the complete process	• may lead to amendments and further supervisor input

TABLE 2: Key factors in research degree assessment in the UK

Examiners and Examining Panels

Setting out the issues

Different notions of what is being examined and how examinations should be carried out lead to different notions of the **composition of panels**. Some institutions have an independent Chair of PhD examination panels – many do not. Sometimes a senior internal member of staff, not necessarily possessing subject expertise, acts with a brief to ensure the good conduct of the examination process and the dissemination of good practice. Institutions differ in the extent to which they allow or encourage assessors at any progression stage to become examiners at the final assessment stage. Some

institutions routinely appoint two examiners – one internal and one external - other institutions and many outside the UK routinely appoint three examiners. Institutions vary in whether or not they require that an examiner should have a PhD him/herself. The question has been raised as to whether or not the external examiner should "*comment on the remainder of the examination board*" (UCoSDA/BPS, 1995). Additionally, the extent and nature of any student input into the appointment of the examining team differs.

The differing **status** of examiners within the panel is also far from well defined. In the CVCP (1993) document 'Handbook for External Examiners in Higher Education' it is stated that "*an external examiner of a PhD is **the** examiner. He or she decides whether the thesis passes or fails*" (their bold type) (p73). This is a view held in some universities but not in others. In some the external examiner overtly holds the key vote whereas in others all examiners are equal - though again some may be more equal than others! Clearly, the role of the internal examiner is defined in relation to that given to the external.

The procedures for **nominating examiners**, and the mechanisms that enable institutions to monitor them, are generally seen to be important if independent and fair assessment is to be achieved, see for example QAA (1999) precept 10a which stresses – '*the mechanisms used for communicating procedures relating to the nomination of examiners*. Yet there seems to be little consistency in practice. Certainly most institutions take particular care over this phase of the administration of research degree examination.

Many institutions do not **train** examiners yet most workshop attendees thought of the process as complex and important enough for some minimal training to be desirable.

With regard to **qualifications** for examinership, UCoSDA/BPS (1995) suggest that

"*an external examiner should possess a PhD or other evidence of a similar level of scholarship and should normally have been principal supervisor of at least one successful PhD student"* p8. The wording of this recommendation lacks precision and allows some considerable latitude and, whilst this may not appear to be serious, it does leave the issue of just what is expected of an examiner largely unresolved. The relationship between examining, scholarship and supervising might usefully be explored further. Many institutions require an examining team to have experience of examining but are less concerned to consider supervisory experience, presumably on the grounds that these two activities are discrete.

The key questions set out in TABLE III were suggested by the issues identified above and were used to focus the discussions in the national seminars and workshops.

- What are the qualifications and experience required of an individual examiner?
- Should examiners be trained?
- How should external scrutiny function within the assessment?
- How should an examining panel be nominated?
- Should the process of examination be monitored/evaluated?
- Should any one examiner have the casting vote?
- Should the student have any role in the process of determining panels?

TABLE III: Key questions – examiners and examining panels

Summary of Discussion on Examiners and Examining panels

Once again the themes emerging in discussion did not match exactly the set of questions in a neat one-to-one correspondence, but the headings below do give a clear indication of the preoccupations of the participants.

Experience/qualifications of the examiner

It was generally agreed during the various workshops that examiners only gain experience of examining by examining, but that training would help to bridge the gap between novice and expert. It was also felt by some participants that examiners should have a record of successful supervision. The grounds cited were that in order to pass judgement on the outcomes of research degree study it is necessary to understand the process of that study and in turn it is therefore necessary to understand the relationship between supervisor, student and project. Examiners should therefore be trained to understand the formative nature of supervision and the relationship between that supervision, individual student achievement and tangible research outcomes.

But it was also noted that there is no nationally recognised forum for exploring the issues of examiner training across the UK - although several universities now offer training to their own staff on their role in the examination of the PhD. It was also noted that there are severe limits to what can be expected of examiners given the level of remuneration and the amount of work involved.

While it was agreed that the examination should act as a learning process for examiners, as noted elsewhere in this paper, it was also recognised that a context needed to be developed in which examiners could reflect and develop such learning. Such opportunities did not exist at present for many colleagues

Role of the examiner

There was a general consensus in the workshops that while examining should be seen as a distinct 'role' with associated specific skills, all too often examiners are chosen for their individual subject specialism and their expertise in this field. If perceived as a 'role', the notion of examiner training could be more meaningfully explored and hence better understood. The issue of 'super examiners' who can step outside their particular ideology/specialism to judge scholarly work more widely was raised. There was some debate about whether or not it was practicable to make use of an independent chairperson in this respect and it was suggested by some that the burden on particular individuals might become onerous if this latter scenario were to develop.

It was generally agreed that examining should not be driven by an examiner's own personal research agenda and that examiners must be aware that other ideologies and methodologies exist outside their own preferences. They should not be influenced to fail a thesis purely on the basis of their own personal convictions, feelings or passion.

Some colleagues conceptualised the role of examiner as either 'teacherly' or 'confrontational'. In the first instance the notion of 'role' is highlighted and examiners of this type act as positive gatekeepers allowing access into the research community. In the second instance the notion of the individual is highlighted and the role assumes more of a function of negative gatekeeping: keeping people out of the research community; disallowing those students who do not share the same ideology/

methodology and passions. Along with this negative gatekeeping is suggested the notion that some examiners may even use the examination process, consciously or otherwise, as a chance for ‘settling old scores'.

Notions of using the individual who judged the progress of the work at a transfer (or progression or upgrading) stage as an examiner at the final examination stage varied along with the view taken of the gatekeeping role. Those who saw the role as a teacherly one tended to see the role of formative assessor as positive and as compatible with that of final assessor. Conversely, those with a more confrontational view tended to see a need for the examination at the final stage to be ‘blind’ to processes that had gone before. Judgements here were to be made on the final product only. Roles tended to correspond with ‘assessment of process’ (teacherly) or ‘examination on the day as single event’ (confrontational).

Most participants agreed that examiners need to be informed about the work they are examining and need to understand the approach used, even if they do not practice it themselves. It was clear that problems were likely to arise where the examiner had not been made fully aware of the nature of the substantive content of the thesis or the procedures and methods employed in the study at the time of appointment. The usefulness of briefing the potential examiners by giving them access to an abstract (or similar) of the thesis was suggested.

Views on the remit that should be given to examiners tended to be constrained by recognition that remuneration levels are already either poor or derisory. Therefore to expect the examiner to comment on more than the work in front of him/her (eg to

comment on supervisory arrangements at the University or on departmental resourcing) was seen as unrealistic by many participants. This whole issue of the status of examining and its relationship to the workings of the academic community as a self-perpetuating Guild was noted but little consensus was achieved.

Examination panels

The role of an independent Chair was felt to be useful in some situations but not others. Some colleagues felt that in 95% of cases there was no need for a Chair as the result of the examination process was clear cut and therefore any panel members in addition to the actual examiners would only add a burden of unnecessary bureaucracy. However, others felt that an independent Chair could enable the sound running of the examination process. He/she could act as a third party or witness in any appeal process - particularly if they have been involved in the examination process since its inception. Those in favour of an independent Chairperson tended to see the role as that of a 'super' examiner who would judge the work on its scholarly value rather than be biased towards any one kind of ideology or methodology.

A majority of discussants felt that the external examiner should not be all-powerful nor have the casting vote because this raised questions regarding the purpose and role of the internal examiner.

Student role in the nomination of the examination panel

There were differing opinions concerning the strength of the student voice: the student should have a veto; the student should have one veto; the student should ‘have a say’ in the examination panel. But there was a fairly consistent view that the student

should have a voice of some kind i.e. not be totally shut out of the process. One reason given was that the student might need at the very least to declare that he/she has had contact with an individual examiner in terms of comments on work. There was some agreement that while the student should not be in a position to choose their own examiner their views on the kind of expertise that would be needed to ensure fair and rigorous examination of their work should be taken into account.

	External Examiner	**Internal examiner**	**Chair**	**Supervisor**	**Student**
Composition	invariably necessary	often but not always necessary	• external examiner • external to panel • chosen on the day	• not necessary in exam process • may attend viva at discretion of examiners or student	presence necessary if viva required
Status of individuals	• expert in field of research? • experience of examining? • has casting vote?	• aware of university regs? • candidate's friend?	• chair independent of panel - aware of university regs? • external?	• Candidate's friend • Advisor on process	• voice in composition of panels? • no voice – merely subject of enquiry
Function of Individuals	• to gatekeep? • to be teacherly? • to endow credibility • to ensure comparability across institutions	• to represent instituition? • to ensure fairness for candidate? • to balance against external?	• to mediate? • to control process of oral? • to enable fair process?	• to act as note-taker for candidate in respect of any amendments • to interpret for the candidate for the examiners?	• to authenticate research? • to prove research skill as an individual? • to give evidence of learning
Experience & Qualifications	• successful supervision? • experience of examining? • holder of a Phd? • Domain expert	Awareness of regs	awareness of regulations		Research skills? first/pg degree?

TABLE IV: Constitution of and roles within examination panels

A summary of some of the main issues raised in relation to Examiners and Examining panels is set out in TABLE IV. In general what is clear from the table is that there is considerable variation in terms of function, status, level of experience and

qualification that permeates the constitution of and the roles of the various participants within the examination scenario.

Recent significant developments

The Quality Assurance Agency (2001) has published its final version of the framework for higher education qualifications. Awards are contained within 3 undergraduate levels (levels C,I,H) and two post graduate levels - Masters (level M) and Doctorate (level D). A set of qualification descriptors which indicate the general learning outcomes that should be achieved within the range of qualification at each of the five levels are also indicated within an Annex to their framework paper.

By carefully cutting and pasting the descriptors, it is possible to construct a matrix such as is indicated, for levels M and D, in TABLE V (reproduced here with the kind permission of Professor Malcolm Shaw who has been responsible for its development and use at Leeds Metropolitan University). This provides a more convenient means to scan the descriptors both within and across levels. The matrix also has allowed some grouping of the descriptors into categories (knowledge and understanding, problem solving, communication, etc) which helps with attempts to trace notions of progression through the levels. It should be noted that this matrix is not in any way a part of QAA promotion of the framework but it does use, for obvious reasons, the precise wording of their descriptors.

These descriptors at level M and level D clearly impinge considerably on our view of what should be achieved within awards such as MRes (level M), MPhil (also level M), PhD (level D) and other doctorates (also level D). As such they impact on the function of our assessment of students and the criteria that we use to assess student achievement in these awards. They suggest a more systematic and consistent approach

	HE4: Masters degree	HE5: Doctoral degree
Qualifications at this level are awarded to students who have shown:		i the creation and interpretation of new knowledge, through original research, or other advanced scholarship, of a quality to satisfy peer review, extend the forefront of the discipline, and merit publication;
	i a systematic understanding of knowledge, and a critical awareness of current problems and/or new insights, much of which is at, or informed by, the forefront of their academic discipline, field of study, or area of professional practice;	ii a systematic acquisition and understanding of a substantial bo of knowledge which is at the forefront of an academic disciplin or area of professional practice;
	ii a comprehensive understanding of techniques applicable to their own research or advanced scholarship; iii originality in the application of knowledge, together with a practical understanding of how established techniques of research and enquiry are used to create and interpret knowledge in the discipline; iv conceptual understanding that enables the student: - to evaluate critically current research and advanced scholarship in the discipline; and - to evaluate methodologies and develop critiques of them and, where appropriate, to propose new hypotheses.	iii the general ability to conceptualise, design and implement a project for the generation of new knowledge, applications or understanding at the forefront of the discipline, and to adjust th project design in the light of unforeseen problems; iv a detailed understanding of applicable techniques for researc and advanced academic enquiry.
Typically holders of qualifications at this level should be able to:	a deal with complex issues both systematically and creatively, make informed judgements in the absence of complete data, and communicate their conclusions clearly to specialist and non-specialist audiences; b demonstrate self direction and originality in tackling and solving problems and act autonomously in planning and implementing tasks at a professional or equivalent level;	a make informed judgements on complex issues in specialist fields, often in the absence of complete data, and be able to communicate their ideas and conclusions clearly and effectivel to specialist and non-specialist audiences;
	c continue to advance their knowledge and understanding, and to develop new skills to a high level;	b continue to undertake pure and/or applied research and development at an advanced level, contributing substantially to the development of new techniques, ideas, or approaches;
	and will have:	and will have:
	d the qualities and transferable skills necessary for employment requiring: - the exercise of initiative and personal responsibility, - decision making in complex and unpredictable situations, and - the independent learning ability required for continuing professional development.	c the qualities and transferable skills necessary for employment requiring the exercise of personal responsibility and largely autonomous initiative in complex and unpredictable situations, professional or equivalent environments.

Knowledge & Understanding
Problem Solving
Lifelong learning & CPD
Data analysis & interpretation
Communication
Employability

TABLE V: matrix of QAA descriptors for qualifications at levels M and D

to assessment and standards across all examiners and across all awards in the HE sector. The descriptors do provide an explicit device with the potential to begin to

identify and explore answers to some of the key questions posed in TABLES 1 and III. Inevitably however these descriptors raise a number of related fundamental questions of their own, such as:

- do the descriptors differentiate adequately between Masters and Doctorate levels?
- do the outcomes present new factors that are not currently examined?
- what implications do the outcomes present for the role of the thesis and the viva?
- do the outcomes accommodate the different types of masters and doctoral awards?

These are questions that require a more extensive and rigorous examination than has been possible in the seminars to date. Certainly it becomes clear, from even a cursory glance at the matrix, that QAA's descriptors provide more scope for a systematic approach to the assessment of the PhD whilst differentiating it from other awards than has typically existed to date. At the same time most of these descriptors at doctoral level might well be seen to be **implicit** in much PhD assessment that is currently carried out, but whether they are valid, adequate and sufficient is another matter.
So we are not suggesting here that the descriptors should be directly translated into assessment criteria, but that they might form a basis for discussion leading to a more structured approach to assessment and hence the possibility of more transparency and equity across the sector.

Conclusions

Codes of Practice

There was some discussion during seminars of the need for a 'Code of Practice for Assessing Research Awards'. It is worth noting here that the QAA (2000b) in its Code of Practice on external examining gives little specific attention to the examination of

the highest award that most Universities commonly make. Similar lack of clarity and of detail is found within precepts 10a and 10b of the QAA (1999) Code of practice for postgraduate research awards.

Principles

The following principles for assessment and examination emerged strongly from the discussions:

- Institutions need to ensure balance between research degree examination as an assessment of the **process** of training and the final **product** that may well be the thesis. Examiners need to recognise that it is the candidate who is being examined albeit on the evidence of learning and achievement presented in the thesis and the viva
- The composition of the examination panel, its remit and roles of individuals should be clear to all participants
- The relationship between the various elements of the examination must be clearly specified along with a statement of the role of each element in the overall assessment
- In any oral examination situation the general procedure and the criteria for making judgements should be laid down in advance by the Institution.
- There should be some way of monitoring the process of an oral examination to enable fairness to be judged and good practice to be identified and disseminated.

- There are skills in examining which can be taught - assumptions to the contrary should not be made. Training in research degree examining should become as commonplace as training in the process and methods for assessment itself.
- There is need for transparency in conceptions of threshold performance and in the weighting of assessment criteria.
- New forms of research degree require a rethink of assessment processes.
- There should be comparability in the level, if not the kind, of assessment applied to traditional and to newer forms of research degree.

And finally we must bite the bullet, accept that we are assessing a total programme of research and develop appropriate criteria. Why should the rigour of the assessment of doctoral work be regarded any differently to that pursued in other aspects and levels of student achievement within higher education?

Acknowledgement

We wish to acknowledge the invaluable contributions made to this paper by Howard Green and Malcolm Shaw.

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